Status Report on Boreal Owl Surveys in Southwestern Montana, 1989.

by

P. D. Mullen

for the

Montana Natural Heritage Program
1515 East Sixth Avenue
Helena, MT 59620

and

USDA Forest Service
Beaverhead and Bitterroot National Forests
Box 238
Wisdom, MT 59761

March 15, 1990

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SUMMARY

Song-playback surveys conducted in forested habitats of southwestern Montana during the winter of 1989 yielded 29 owl responses. Nine boreal owl responses were heard, representing eight different owls, during seven of the thirty surveys. Boreal owls were heard in either Picea englemanii, Abies lasiocarpa, Pseudotsuga menziesii, or Pinus contorta forest types between 6,000 and 7,800 ft elevation. Five and three owls were heard on the west and east sides of the Continental Divide respectively. Owl calling sites were between 12 and 120 ft from forest openings and within 300 ft of water. Suggestions are made for future research on boreal owls to comply with monitoring and management regulations defined in the National Forest Management Act of 1976.

Analysis of stand structure at primary calling sites indicated number of canopy levels ranging from one to four with canopy closure estimates from 40 to 80 percent. All stands contained from 2 to 10 snags per acre. Ages of dominant trees ranged from 80 to 200 years, with DBH values between 11 and 24 inches and heights from 54 to 90 feet.

INTRODUCTION

The boreal owl (Aegolius funereus) is a small, nocturnal owl found in coniferous forests of northern North America and Eurasia (AOU 1983, Clark et. al. 1987). Although generally secretive, the male boreal owl is often vocal during the early breeding season (Feb.- May), and can be located using nocturnal surveys (Palmer 1987). Previous studies indicate that only potentially breeding males call (Hayward et al. 1987), implying that owl calling activity indicates the presence of breeding populations.

The status of the boreal owl in southwestern Montana is poorly known, though its presence has been established on a regional basis by confirmed nesting studies in Colorado (Palmer and Ryder 1984) and Idaho (Hayward and Garton 1983). In southwestern Montana during the winter of 1984 four singing males were heard in the Big Hole Valley during a coordinated survey effort (Hayward et al. 1987). Holt (1986) located boreal owls in west-central Montana along the Idaho border. No nests have been found to date.

Survey results in the Rocky Mountain Region indicate that boreal owls in Montana occur in mature spruce (Picea englemanii)-fir (Abies spp.) forest types greater than 5,000 ft elevation, which at times may be associated with lodgepole pine (Pinus contorta)/wet meadow complexes (Holt and Hillis 1987).

The Region 1 of the United States Forest Service (U.S.F.S) lists the boreal owl as a Sensitive Species, and thus is required to monitor their status and population trends on forest lands under the National Forest Management Act (NFMA) of 1976 (16 U.S.C. 1600). Additionally, NFMA requires that suitable habitat be maintained to support viable boreal owl populations throughout their range on Forest Service Lands.

During the winter of 1989 a cooperative study of the boreal owl was initiated between the Beaverhead and Bitterroot National Forests and the Montana Natural Heritage Program.

Primary objectives of this study were to develop a better understanding of the distribution, habitat requirements, and population status of the boreal owl in southwestern Montana. This project is the first of four years, designed to gather sufficient baseline data on boreal owls. These data will subsequently be used in population monitoring, viability assessment, and forest planning. This report is a summary of the efforts during 1989 to document the occurrence of boreal owls in southwestern Montana on portions of the Beaverhead and Bitterroot National Forests.

STUDY AREA

The study area consists of portions of Beaverhead, Deerlodge, Silverbow, and Ravalli Counties along the Continental Divide (Fig. 1). Elevations in the area range from about 4,500 ft to 8,500 ft with a variety of forest cover types, aspects, and slopes. Lower elevation sites on the west slope of the Continental Divide in Ravalli County are dominated by ponderosa pine (Pinus ponderosa) and Douglas fir (Pseudotsuga menziesii). Subalpine fir (Abies lasiocarpa) and lodgepole pine occur at higher elevations along the Divide. Engelmann spruce is found in cool moist sites, primarily along creeks and draws in the subalpine zone throughout the area.

Douglas fir stands also occur along dry foothills in the eastern portion of the study area, east of the Continental Divide, while lodgepole/subalpine fir dominate the higher elevation sites. The remainder of the study area is primarily lodgepole/subalpine fir cover types with spruce/subalpine fir occurring in wet areas, draws, and around wet meadow complexes. Aspen (Populus tremuloides) and willow (Salix spp.) are present in isolated patches throughout the area as riparian or paloustrian species

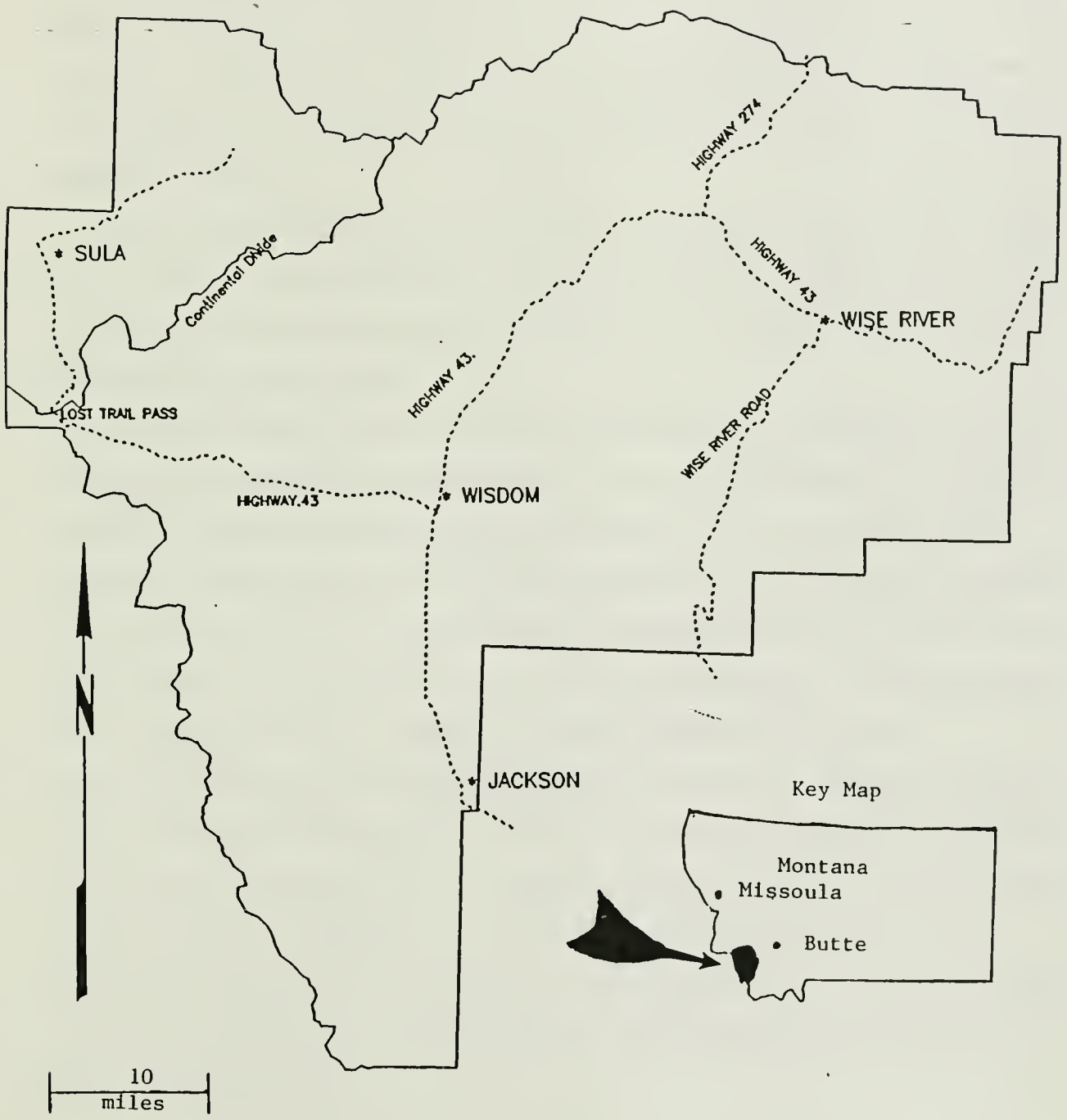

Figure 1. Map of the study area in Southwestern Montana.

METHODS

Owls were surveyed using the song playback technique (Fuller and Mosher 1981) from vehicle and snowmobile along survey routes from 24 February to 4 May, 1989. Survey routes were selected to include a variety of forest types and elevations. See Figure 2 for route delineations and Table 1 for a list of routes by District.

There were twenty-five survey routes which included areas of three Ranger Districts on two National Forests. Wise River and Wisdom Ranger Districts were included on the Beaverhead National Forest, and Sula Ranger District on the Bitterroot National Forest.

Surveys started one half hour after dusk and lasted approximately four to five hours or until 2300 or 2400 hours. Routes were selected to be eight to ten miles long with playback stations between one half and one mile apart depending on topographic and/or habitat variation. At each station I listened for calling owls for two to three minutes, played one species' call for two to three minutes, and listened again for two to three minutes. This was repeated three times per station. Boreal calls were played most often, but occassionally great gray (Strix nebulosa) or saw-whet owl (Aegolius acadicus) calls were played at alternating stations. Survey report forms were completed for each survey attempt, and owl observation forms filled out for routes where owls were heard. See Appendix I for sample report and observation forms. Approximate locations of owl responses were mapped on U.S.G.S. Topographic maps (7.5 min.). These sites were then visited for habitat analysis during the summer months of 1989.

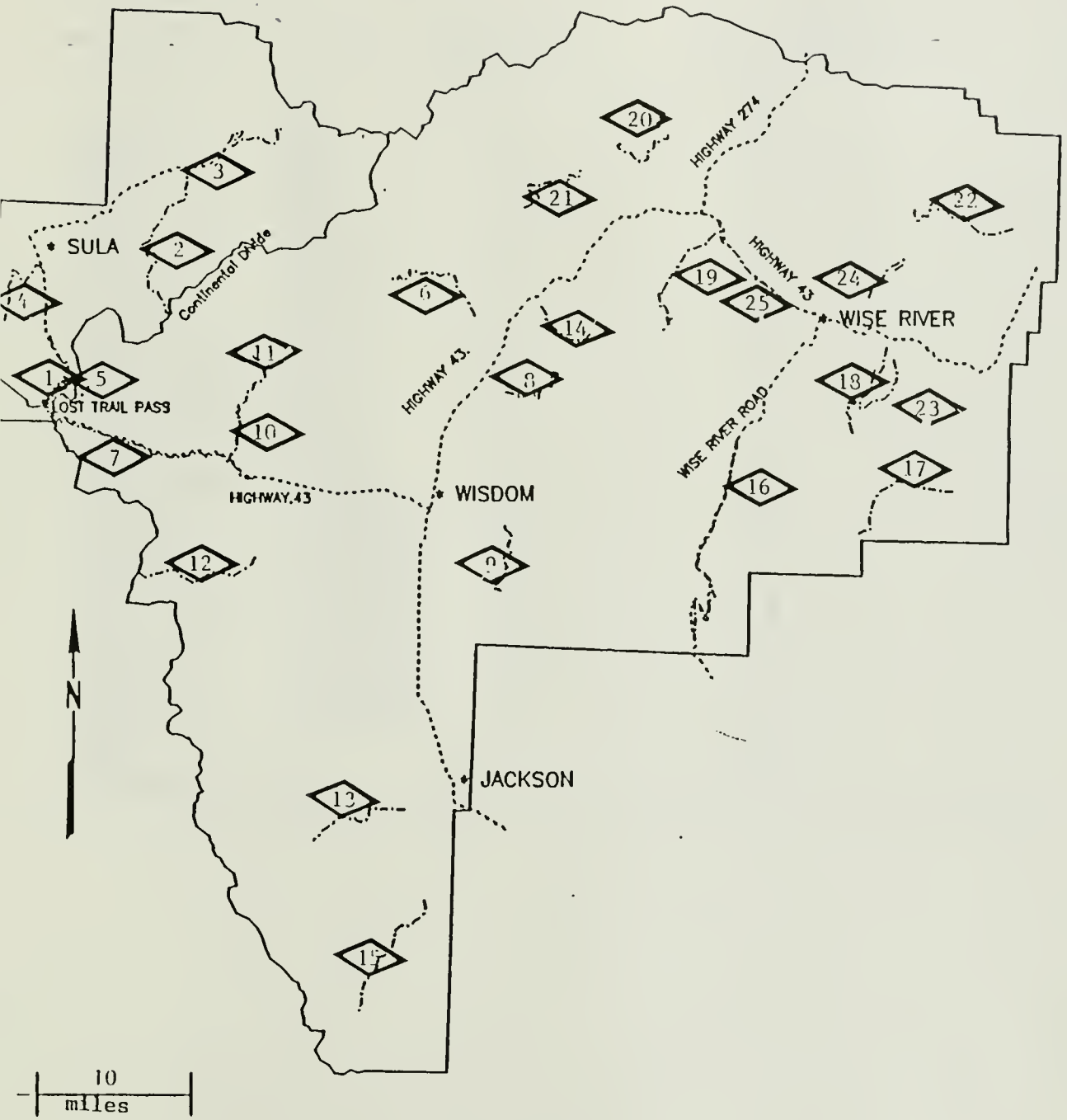

Figure 2. Owl survey routes within the study area, 1989-

Table 1. Owl survey routes by Forest District and length, 1989.

ROUTE NAME	DISTRICT	LENGTH(mi)	N	TOTAL SURVEYED(mi)
Lost Trail	Sula	8	2	16
Meadow Cr.	Sula	13	1	13
Lick Cr.	Sula	7	1	7
Andrews Cr.	Sula	7	1	7
Gibbon Trail	Sula	8	1	8
Howell Cr.	Wisdom	10	2	20
Chief Joseph	Wisdom	15	1	15
Doolittle	Wisdom	8	1	8
Steel-Fox	Wisdom	9	1	9
Johnson Cr.	Wisdom	10	1	10
Upper Johnson	Wisdom	6	1	6
Big Hole Pass	Wisdom	8	1	8
Miner Lake	Wisdom	8	1	8
Squaw Cr.	Wisdom	7	1	7
Skinner Meadow	Wisdom	6	1	6
Wise River	Wise River	15	2	30
Trapper Cr.	Wise River	9	3	27
Triangle	Wise River	11	1	11
Bryant Cr.	Wise River	10	1	10
East LaMarche	Wise River	8	1	8
Fishtrap	Wise River	8	1	8
Divide Cr.	Wise River	8	1	8
Quartz Hill	Wise River	8	1	8
Jerry Cr.	Wise River	6	1	6
Highway 43	Wise River	8	1	8
TOTAL				281

N = Number of trips

HABITAT ANALYSIS

Habitat analysis consisted of a site description of the area around each owl response site. Macro-habitat parameters recorded at each site were: elevation, aspect, slope percent, distance to nearest opening (clearcut, meadow, or park >1 acre), distance to water, distance to nearest disturbance source (e.g. road, highway, recreation area). Micro-habitat parameters recorded included forest type, number of canopy levels, percent canopy closure, number of snags per acre, basal area of dominant tree species, age, mean diameter at breast height (DBH), and mean height of dominant tree species.

In an attempt to compensate for possible owl location error, a second adjacent stand was chosen at each site in a direct line with the listening point from the primary location for identical analysis. Though this method did not increase the accuracy of the habitat analysis, it did serve to broaden the potential habitat types in which owls may have been calling. In subsequent survey years, attempts should be made to locate singing males to precise stands, thereby increasing the validity of the data.

Calculations of basal area, number of snags per acre, and percent canopy closure were based on estimates concurrent with standard U.S.F.S. stand examination procedures.

Median value and range for each habitat parameter were calculated for primary, secondary, and total stands analyzed.

RESULTS

Thirty surveys were conducted during the period, covering 272 miles. Approximately 51 miles were covered on the Sula District, 97 on the Wisdom District, and 124 on the Wise River District (Table 1).

Twenty-nine owl responses were heard of which nine were borealS. The remaining species and numbers heard were saw-whet (6), great gray (2), and great horned owls (Bubo virginianus) (12). The nine boreal responses were heard in seven different locations (Appendix II). Results suggest that of the nine borealS heard, eight were different owls (See owl observation forms in Appendix III).

Of the eight different boreal owls heard, five were located on three survey routes on the Sula District. Two were heard on the Meadow Creek route, two on the Lost Trail Pass route, and one on the Gibbon Trail route. Two were heard on the Wisdom District: one on the Skinner Meadows route and one on the Chief Joseph Pass route. The one boreal located on the Wise River District was heard on the Bryant Creek route. Seven of the nine total responses were elicited by song playback, while the remaining two owls were calling prior to any taped playback. Specific responses are described on owl observation forms found in Appendix III.

An estimate of boreal responses per mile of survey effort yields approximately one boreal owl response per 34 mi of survey. As an estimate of survey effort by forest district, the data yield approximately one response per 10 mi for the Sula District routes, one response per 48 mi for the Wisdom routes, and one response per 124 mi for the Wise River routes.

Habitat Characteristics

Boreal owl calling sites located during the survey occured between 6,000 ft and 7,800 ft elevation. All sites were found to be in spruce/subalpine fir, lodgepole/subalpine fir, Douglas fir/lodgepole, or lodgepole/spruce forest types. Primary sites were within 120 ft of forest openings and within 320 ft

Table 2. Macro-habitat characteristics of Boreal Owl calling sites, 1989.

SITE NAME		ELEVATION	ASPECT	SLOPE(%)	DISTANCE OPENING	DISTANCE WATER	DISTANCEE DISTURBANCE
Skinner	1	7000	210	10	160	950	950
Meadows	2	7000	180	10	35	150	3100
Meadow	1	6500	120	45	320	320	320
Creek	2	6600	90	50	250	380	250
Mink	1	6000	90	20	95	35	95
Creek	2	6000	90	30	95	160	95
Lost	1	6800	70	60	250	65	250
Trail	2	6800	70	50	330	250	330
Joseph	1	7100	200	20	35	95	480
Creek	2	7100	90	20	65	125	330
Bryant	1	7800	60	30	65	95	3200
Creek	2	7800	10	30	125	160	3200
Ski Hill	1	7100	95	0	95	65	160
	2	7100	90	0	125	65	160
Median (range)		6800 (6000-7800)	110 (10-210)	30 (0-60)	175 (35-330)	500 (35-950)	1700 (95-3200)
	1	6800 (6000-7800)	135 (60-210)	30 (0-60)	175 (35-330)	500 (35-950)	1700 (95-3200)
	2	6800 (6000-7800)	95 (10-180)	25 (0-50)	175 (35-330)	220 (65-380)	1700 (95-3200)

Table 3. Micro-habitat characteristics of Boreal Owl calling sites, 1989.

SITE NAME		FOREST TYPE	CANOPY LEVELS	%CANOPY CLOSURE	SNAGS/AC	BASAL AREA/AC	AGE	DBH (IN.)	HEIGHT (FT.)
Skinner	1	LP/SAF	1	40	2	140	80	11	54
Meadows	2	LP/SP	3	60	4	160	150	22	65
Meadow	1	LP/DF	2	40	5	30	200	24	85
Creek	2	LP/SAF	1	50	2	111	70	8	55
Mink	1	SAF/SP	4	80	4	150	110	18	80
Creek	2	SAF/DF	2	60	2	44	90	12	70
Lost	1	DF/SP	4	70	5	85	200	20	90
Trail	2	DF/SAF/LP	2	60	2	125	130	12	70
Joseph	1	LP/SAF/SP	3	70	3	125	110	12	60
Creek	2	LP/SAF	2	50	2	44	120	12	60
Bryant	1	SP/SAF	3	70	5	33	140	12	75
Creek	2	LP/SAF	2	50	2	40	110	8	55
Ski Hill	1	SP/SAF	2	40	10	80	200	20	60
	2	LP/SAF/SP	2	50	4	125	150	12	60
Median (range)			2.5 (1-4)	60 (40-80)	6 (2-10)	95 (30-160)	135 (70-200)	16 (8-24)	72 (54-90)
Primary	1		2.5 (1-4)	60 (40-80)	6 (2-10)	90 (30-150)	140 (80-200)	17.5 (11-24)	72 (54-90)
Secondary	2		2 (1-3)	55 (50-60)	3 (2-4)	100 (40-160)	110 (70-150)	15 (8-22)	62.5 (55-70)

LP-Lodgepole pine.
SAF-Subalpine fir.
DF-Douglas fir.
SP-Engleman spruce.

Table 4. Types of forest openings nearest Boreal Owl calling sites, 1989.

SITE NAME		TYPE OF OPENING
Skinner Meadows	1	Dry Park
	2	Mesic Meadow
Meadow Creek	1	Clearcut/road
	2	Clearcut/road
Mink Creek	1	Road
	2	Road
Lost Trail	1	Road
	2	Road
Joseph Creek	1	Mesic Meadow
	2	Mesic Meadow
Bryant Creek	1	Clearcut
	2	Clearcut
Ski Hill	1	Wet Meadow/Ski Hill
	2	Wet Meadow/Ski Hill

of water or wet meadow areas. Slopes ranged from zero to 60 percent for primary sites with aspects from 60 to 210 degrees. Distances from potential human disturbance ranged from 100 ft to just under 1 mile (Tables 2,3). Types of forest openings nearest calling sites included clearcuts, parks, meadows, and roads (Table 4).

Analysis of stand structure at primary sites indicated number of canopy levels ranging from one to four with canopy closure estimates from 40 to 80 percent. All stands contained from 2 to 10 snags(> 8") per acre. Ages of dominant trees ranged from 80 to 200 years, with DBH values between 11 and 24 inches and heights from 54 to 90 feet (Table 3).

DISCUSSION

The presence of boreal owls in the study area during the breeding season is an indication that, though no nests were found, borealss are present in southwestern Montana as potential nesters, and can be monitored as such in the future. Data from this survey should be considered as evidence of boreal activity, and not as a basis for owl density calculations or population levels within the study area.

Boreal owls were heard in primarily high elevation (6,000-7,800 ft) spruce/subalpine fir, subalpine fir/lodgepole, and Douglas fir/subalpine fir forest types. This is consistent with findings in the Bitterroot Divide (Holt and Hillis 1987) and central Idaho (Hayward et al. 1984). Though surveys covered additional forest types, including ponderosa pine and Douglas fir/juniper (Juniperus spp.) at lower elevations, no responses were heard in these forest types.

Forest openings nearest boreal calling sites were man-made at five of the seven sites (Table 4). G. Hayward (Pers. commun.) suggested that man-made

openings (i.e. clearcuts) may in some cases be "beneficial" to boreals because they create edge habitat which the owls use for hunting. It should be noted however, that man-made openings are often accompanied by the potential for human disturbance such as road traffic or firewood cutting, which may not benefit the owls. The potential also exists for the invasion/colonization of these openings by competing owl species such as Great horned, saw-whet, or barred owls (Strix varia). Such invasions may have a negative effect on boreal owl management goals. Additional research is needed to clarify the relationship between owl habitat use and forest management.

Regional variation of both calling activity of male boreals and breeding success of nesting pairs has been noted (Hayward et al. 1986). These variations are apparently a direct result of fluctuations of prey populations and/or availability. These findings are particularily significant in their application to the design and duration of owl surveys and monitoring.

Short term (one-two years) preliminary surveys cannot take into account yearly fluctuations in calling activity, which could influence management activities in the area with potentially drastic results. Additionally, as this study shows, an apparent regional difference in owl densities exists between the east and west sides of the Continental Divide. If management were directed solely by this one year study, without taking into account the possibility of regional variation in calling rates, very little management for boreal owls would take place on the eastern Districts due to few or no owls found there. Additional survey years may result in very different results, and should serve to assemble the necessary data describing boreal owl distribution and abundance over the study area.

As a suggestion for further research, boreal owl surveys should be continued in southwestern Montana with initial emphasis on nest location

attempts. In addition to new survey routes, repeat surveys should be made in spruce/fir forest types using routes covered by this study. Nest location and nest site analysis are important so that management guidelines for these areas can incorporate boreal habitat requirements for NFMA compliance.

Site specific data on seasonal and yearly boreal habitat requirements are needed on a long term basis to ensure a viable boreal population on forest lands in the region.

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APPENDIX I

Sample Survey Report and Owl Observation data forms.

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SURVEY REPORT FORM

Party Members

[illegible]

[illegible]

Date 3-31-89

Route Name

TRAPPER CREEK

Target Species (if any)

Long EARED

Screech, Boreal

Route location: **County** Beaverhead **Forest** Beaverhead

Drainage TRAPPER **Elevation** [illegible] **District** Wise River

Repeat Visit ? Y N

Route Description

Left Grose Ranch / Glendale up TRAPPER CREEK Road approx 8 miles

Distance: 6 miles

Means of travel: Vehicle
(auto, ski, etc.)

Start time: 1930

Finish time: 2200

Weather (at end of survey)

Temperature: 35°

Cloud cover: 50%

Snow depth: 2-4'

Precipitation (describe): None

Wind: light Variable

Species encountered (if any, use Owl Observation Form)

species	#
Great Horned	1

B 19

SURVEY REPORT FORM

Party Members
P Miller
L Miller

Date 1/03-09

Target Species (if any)

Route Name Mixer LAKE

Route location: **County** Beaverhead **Forest** Beaverhead
Drainage Wisdom **Elevation** 6500 7500 **District** Wisdom
Repeat Visit ? Y (N)

Route Description
From Forest BNDY on Mixer Lakes Road up 2.8 3 Miles

Distance: 6 miles
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 0830
Finish time: 0930

Weather (at end of survey)
Temperature: 20°
Cloud cover: Clear
Snow depth: 2-3'
Precipitation (describe): Non
Wind: Calm

Species encountered (if any, use Owl Observation Form)

species	#
[illegible]	[illegible]

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SURVEY REPORT FORM

Party Members
P Mullen
J. EASLEY
G. EASLEY

Date 4-06-89

Route Name
Divide Creek

Target Species (if any)
Boreal
Sawwhet

Route location:
County Silver Bow Forest Beaverhead-Deerlodge
Drainage Divide Cr. Elevation 6000-7500ft District Wise River

Repeat Visit ? Y (N)

Route Description
From Two miles up Divide Creek Road at Feely Exit on Highway 15 - Blight miles up Divide Creek Road To Upper Jerry Creek Saddle,

Distance: 8 miles
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 2045
Finish time: 2315

Weather (at end of survey)
Temperature: 25°
Cloud cover: None
Snow depth: 2-4 ft.

Precipitation (describe): None
Wind: Gusty to 20 mph.

Species encountered (if any, use Owl Observation Form)

species	#
None.	

SURVEY REPORT FORM

Party Members
P. Allen
D. Mcknight

Date 4-07-89

Target Species (if any)
Owl
Forest Carn

Route Name
Wise River Road

Route location:
County Beaverhead Forest Beaverhead
Drainage Wise River Elevation 6000-7200 District Wise River

Repeat Visit ? Y N

Route Description
From Pattengail Road on Wise River Road, up Wise River to Moore Peak-

1 * Breakdown of machine - Route from Lacey Creek to Pattengail 7 miles -

Distance: 7 miles
Means of travel: Snow Machine
(auto, ski, etc.)

Start time: 2050
Finish time: 2250

Weather (at end of survey)
Temperature: 35°
Cloud cover: Clear
Snow depth: 3-5 ft.

Precipitation (describe): None
Wind: Light + Variable

Species encountered (if any, use Owl Observation Form)

species	#
None	

2 * Tape Player Broke During Survey - Continued ~~to~~ but only Listened.

SURVEY REPORT FORM

Party Members
P. Mullen
T. Jones

Date 4/12/89

Route Name
Squaw Cr.

Target Species (if any)
Boreal
G. Gray

Route location:
County Beaverhead
Forest Beaverhead
Drainage Squaw
Elevation 6500
District Wisdom

Repeat Visit ? Y (N)

Route Description
From Rd. Jct. 1 mile up Squaw Cr. from Hwy 48 - 7 miles up Squaw Cr. road & trail
Mostly Ballons - willow / sage / grasses w/ steep timbered side hills in South

Distance: 7 Mi
Means of travel: Snow mobile
(auto, ski, etc.)

Start time: 2045
Finish time: 2230

Weather
Temperature: 30°
Cloud cover: None
Snow depth: 3-5'

Precipitation: None
Wind: Light variable - 5-10 mph

Species encountered (if any, use Owl Observation Form)

species	#
Great horned	1

OWL OBSERVATION FORM

Party Members P. Mullen

Date 4/12/89 Route Name Incidental

Repeat Observation ? Y (N)

Species Saw whet Number present 1 Time 0200 to 0230

Location:

Township 2N Range 2W Section 28 1/4 NW Elev 6100

UTM (Optional) 336.3 E 508.3.7 N Slope 20-40% Aspect N/NW

County: Silver Bow Forest: Beaverhead

Drainage: Connor Cr. District: Wise River

Describe Observations: (bark, territorial call, sighting, etc.)

Repeated calling

Describe Location:

Small Ridge - mtn top where Mill creek highway and Hwy. 43 Jct.

Describe Habitat: (canopy cover, comm. type, stand age, etc.)

Mature Lodgepole / ABLA Next Sage Brush Meadows. at upper end of small Ridge East of Mill Creek Highway ¼ mile.

Describe Land use/management:

BLM / PRIVATE

Comments:

LINCOLN Gulch Quadrangle

SURVEY REPORT FORM

Party Members: P. Mullen

Date: 4/13/89

Target Species (if any): Boreal Sawwhet

Route Name: Andrews Cr.

Route location:

Drainage: Andrews

County: _____

Elevation: 4600 5300

Forest: Bitterroot

District: Sula

Repeat Visit ? Y (N)

Route Description

From Sula Ranger Sta. on Hwy 93. ~~West~~ West up Andrews Cr. Road 6 miles. Some cut-over areas mostly steep slopes. Dry DFir-PPine / E Asl slopes.

Distance: 6 mi

Means of travel: Auto
(auto, ski, etc.)

Start time: 2055

Finish time: 2220

Weather (at end of survey)

Temperature: 30°

Cloud cover: clear

Snow depth: 2-4'

Precipitation (describe): None

Wind: Light

Species encountered (if any, use Owl Observation Form)

species	#
G. Horned	1

SURVEY REPORT FORM

Party Members
P Miller
P. Olsen

Date 4/17/89

Target Species (if any)
Boreal
Sawwhet

Route Name
Quartz Hill

Route location:
Drainage Quartzhill
County Beaverhead
Elevation 6000 8000
Forest Beaverhead
District Wise River

Repeat Visit ? Y (N)

Route Description
2m2milup Quartz hill Road from Hwy 43 - 8 miles to Top of Vipond Park.

Distance: 8 Miles
Means of travel:
(auto, ski, etc.)

Start time:
Finish time:

Weather (at end of survey)
Temperature: 25°
Cloud cover: None
Snow depth: 3-5'

Precipitation (describe): None
Wind: Gust to 10-15 mph

Species encountered (if any, use Owl Observation Form)

species	#
Sawwhet	1

14 (25)

OWL OBSERVATION FORM

Party Members
Pinullen
Pielsen

Date 4/17/89 Route Name Quartz Hill

Repeat Observation ? Y (N)

Species Saw whet Number present 1 Time 2230
to 2240

Location:
Township 15 Range 10W Section 30 1/4 S.E Elev 6000
UTM (Optional) 353.0E 5064.1N Slope 52% Aspect W
County: Beaverhead Forest: Beaverhead
Drainage: Quartz Gulch District: Wise River

Describe Observations: (bark, territorial call, sighting, etc.)
Reported Calling in Response to Boreal playback

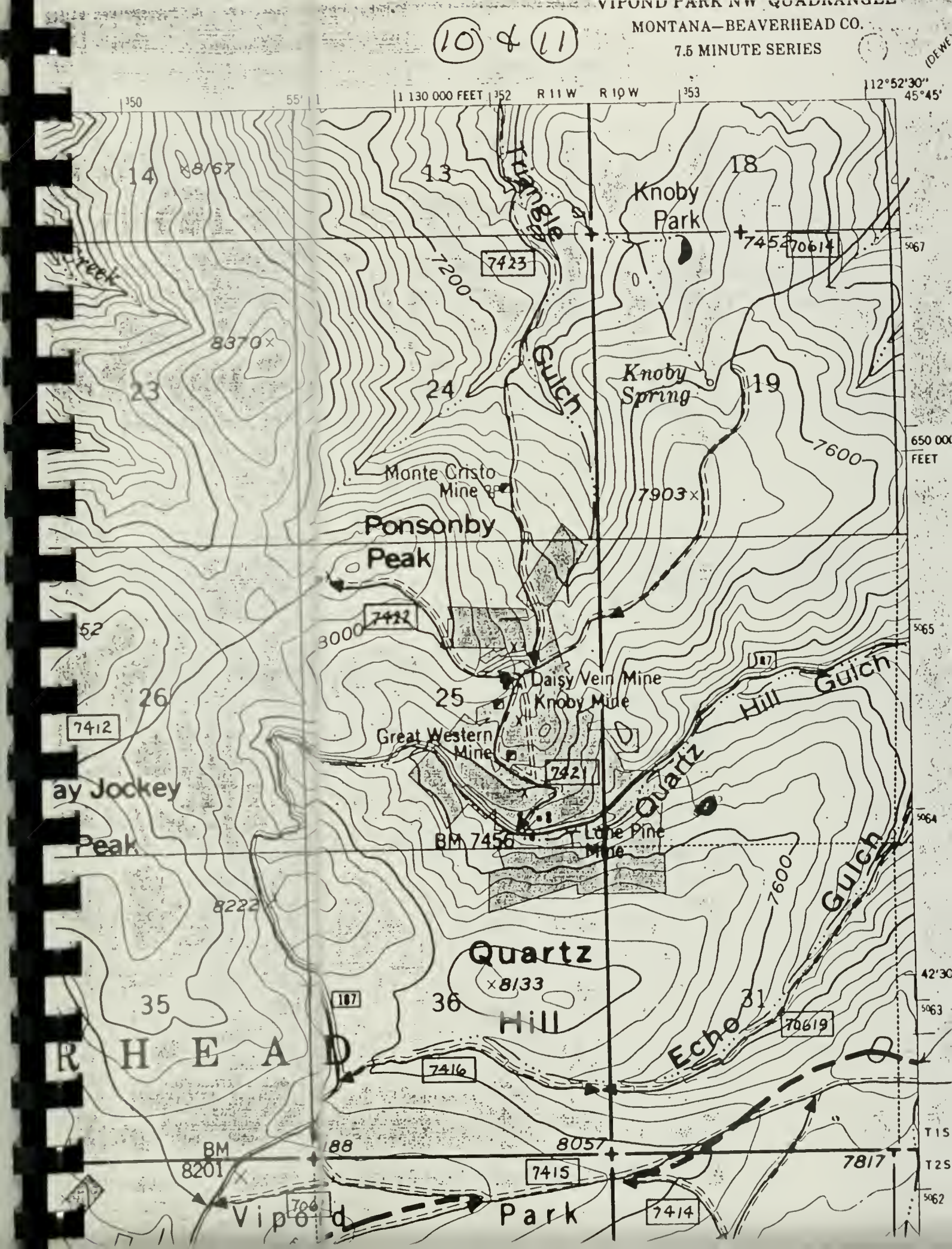
Describe Location:
E 1/4 Mile Down Quartz hill Road from Quartz Hill along/camp on East side and Above Creek 100 M.

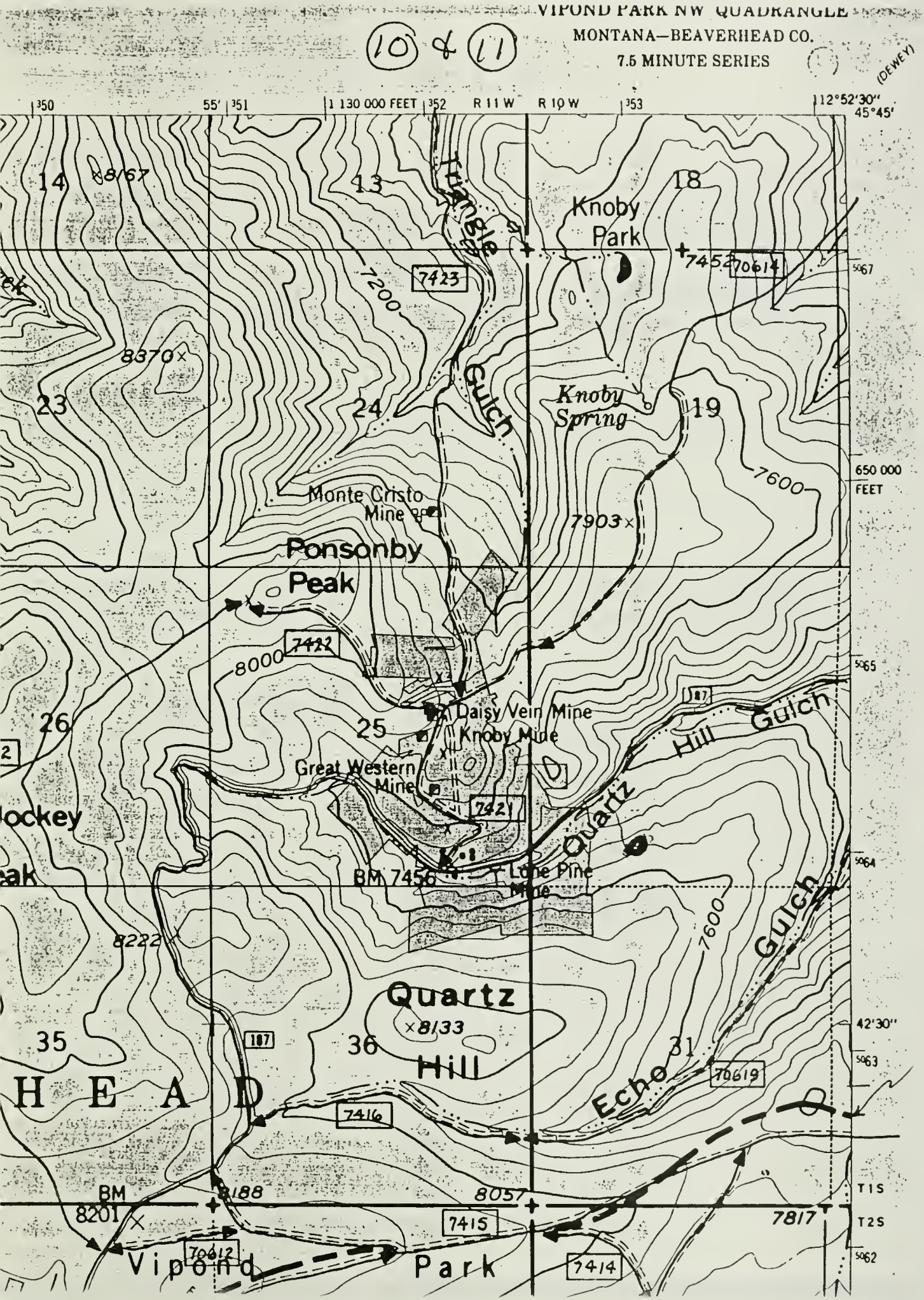
Describe Habitat: (canopy cover, comm. type, stand age, etc.)
Douglas Fir / ABLA. Mature above creek

Describe Land use/management:
U.S.F.S

Comments:
VIPOND PARK N.W. QUAD.

14
23
52
7412
ay Jockey
Peak
35
R
H


VIPOND PARK NW QUADRANGLE
MONTANA—BEAVERHEAD CO.
7.5 MINUTE SERIES
10 & 11
1 130 000 FEET
R 11 W
R 10 W
112°52'30"
45°45'
Knoby Park
7452
7423
7200
Triangle Gulch
Knoby Spring
7600
7903
Monte Cristo Mine
Ponsonby Peak
7422
8000
Daisy Vein Mine
Knoby Mine
Great Western Mine
7421
Quartz Hill Gulch
Lone Pine Mine
BM 7456
ay Jockey Peak
8222
Quartz Hill
8133
Echo Gulch
7600
7416
BM 8201
8057
7817
7415
7414
Vipond Park
R H E A D
T 1 S
T 2 S


VIPOND PARK NW QUADRANGLE
MONTANA—BEAVERHEAD CO.
7.5 MINUTE SERIES
(10 & 11)
(DEWEY)
1 130 000 FEET
R 11 W
R 10 W
12°52'30"
45°45'
650 000 FEET
42'30"
T 1 S
T 2 S
Knoby Park
Knoby Spring
Triangle Gulch
Monte Cristo Mine
Ponsonby Peak
Daisy Vein Mine
Knoby Mine
Great Western Mine
Lone Pine Mine
BM 7456
Quartz Hill Gulch
Quartz Hill
Echo Gulch
H E A D
Vipond Park
BM 8201
8188
8057
7817
8370
7903
8222
8133
7423
7422
7421
7416
7415
7414
70614
70619
70612
7200
7600
8000
14
13
18
19
23
24
25
26
35
36
31

28

SURVEY REPORT FORM

Party Members: P. Mullen

Date: 5/01/89

Target Species (if any): Sasquatch

Route Name: Jerry Creek

Route location:

County: Boa

Forest: Beaverhead

Drainage: Jerry Cr

Elevation: 6000 / 6200

District: Wise River

Repeat Visit ? Y (N)

Route Description

From Jerry Cr Road Jct // Hwy 43 · 6 miles up Jerry Creek Road

Distance: 6mi

Means of travel: Auto
(auto, ski, etc.)

Start time: 2020

Finish time: 2150

Weather (at end of survey)

Temperature: 30°

Cloud cover: 30%

Snow depth: 2'

Precipitation (describe): None

Wind: Light

Species encountered (if any, use Owl Observation Form)

species	#
G. Horned	1

SURVEY REPORT FORM

Party Members
P. Mallen

Date 5/02/89

Target Species (if any)
Sawwhet

Route Name
Hwy 43

Route location:
Drainage Bigtlole
County Beaverhead
Elevation 6100
Forest Beaverhead
District Wise River

Repeat Visit ? Y N

Route Description
from Mallan Ranch on Hwy 43 to Ralston Ranch on Hwy 43. Along Big Hole River

Distance: 8 mi
Means of travel: Auto
(auto, ski, etc.)

Start time: 2220
Finish time: 2340

Weather (at end of survey)
Temperature: 30°
Cloud cover: Clear
Snow depth: 2-4'

Precipitation (describe): None
Wind: Gusty 10 10 mph

Species encountered (if any, use Owl Observation Form)

species	#	
Gr. Gray	1	(incidental visual - no calling)

OWL OBSERVATION FORM

Party Members P. Mueller

Date 5/02/89 Route Name Hwy 43

Repeat Observation ? Y (N)

Species Gr. Gray Number present 1 Time 1730 to

Location:

Township 1N Range 12W Section 14 1/4 SE Elev 5660

UTM (Optional) 340.8E 5077.3N Slope 0 Aspect 0

County: Beaverhead Forest: Beaverhead

Drainage: Big Hole District: Wise River

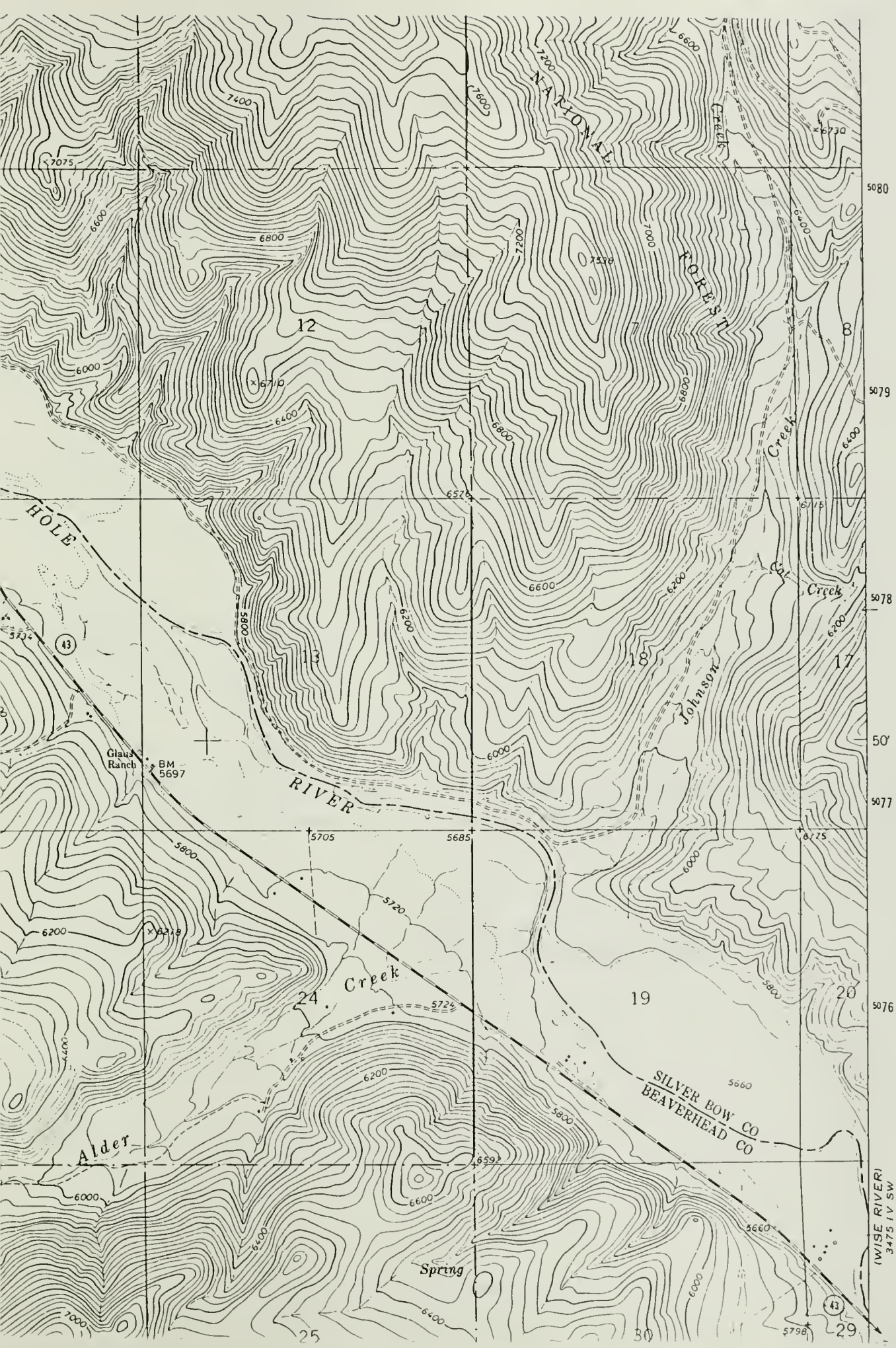
Describe Observations: (bark, territorial call, sighting, etc.)
Sighting - Owl Perched on Roadside Reflector Post NEAR Hwy 43

Describe Location:
1/4 mile WEST of 'Glens Ranch' on Hwy 43 Approx 4 miles Wise River.

Describe Habitat: (canopy cover, comm. type, stand age, etc.)
Aspen/willow Stand on Slope South of road. Grass Hay Field on North of Road 1/4 - 1/2 mile to RIVER.

Describe Land use/management:
Private - Cattle

Comments:
Dickie Hills QUADRANGLE


NATIONAL FOREST
HOLE
RIVER
Creek
Cat Creek
Johnson
Glaus Ranch
BM 5697
Alder
Creek
Spring
SILVER BOW CO
BEAVERHEAD CO
12
13
18
17
19
20
24
25
30
29
8
7
5080
5079
5078
5077
5076
50'
(WISE RIVER)
3475 IV SW

30

SURVEY REPORT FORM

Party Members
P Mullen
B. Costain

Date 5/04/89

Route Name
Upper Johnson

Target Species (if any)
Gr Gray
Bureal

Route location:
Drainage Johnson Cr. County Beaverhead Elevation _____ Forest Beaverhead District Wisdom

Repeat Visit ? (Y) (N)

Route Description
From Maybee Meadows on Johnson/TIE Cr. Road off Hwy 43. - TO Waltz creek.

Distance: 6 miles
Means of travel: Auto
(auto, ski, etc.)

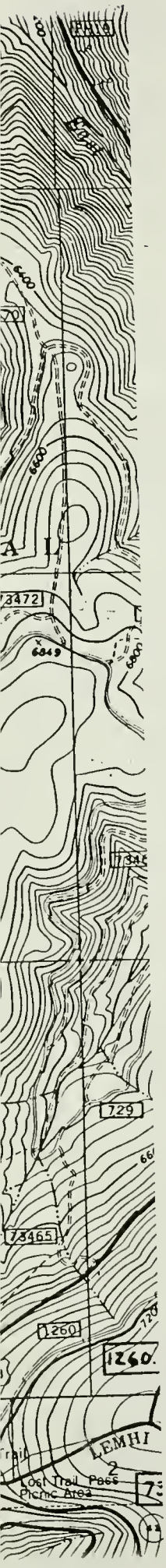
Start time: 2045
Finish time: 2200

Weather (at end of survey)
Temperature: 40°
Cloud cover: 80%
Snow depth: 2'

Precipitation (describe): Scattered Rain
Wind: 5-10 mph

Species encountered (if any, use Owl Observation Form)

species	#
None	



OWL OBSERVATION FORM

Party Members
P. Mullen
L. Mullen

Date 4/14/09 Route Name

Repeat Observation ? (Y) (N) D. Gent

Species Saw whet Number present 1 Time
to

Location:
Township 1S Range (1W) Section 27 1/4 S.E Elev E
UTM (Optional) 272.2E 5067.0N Slope 52% Aspec
County: Ravalli Forest: Bitterroot
Drainage: Camp Creek District: Sula

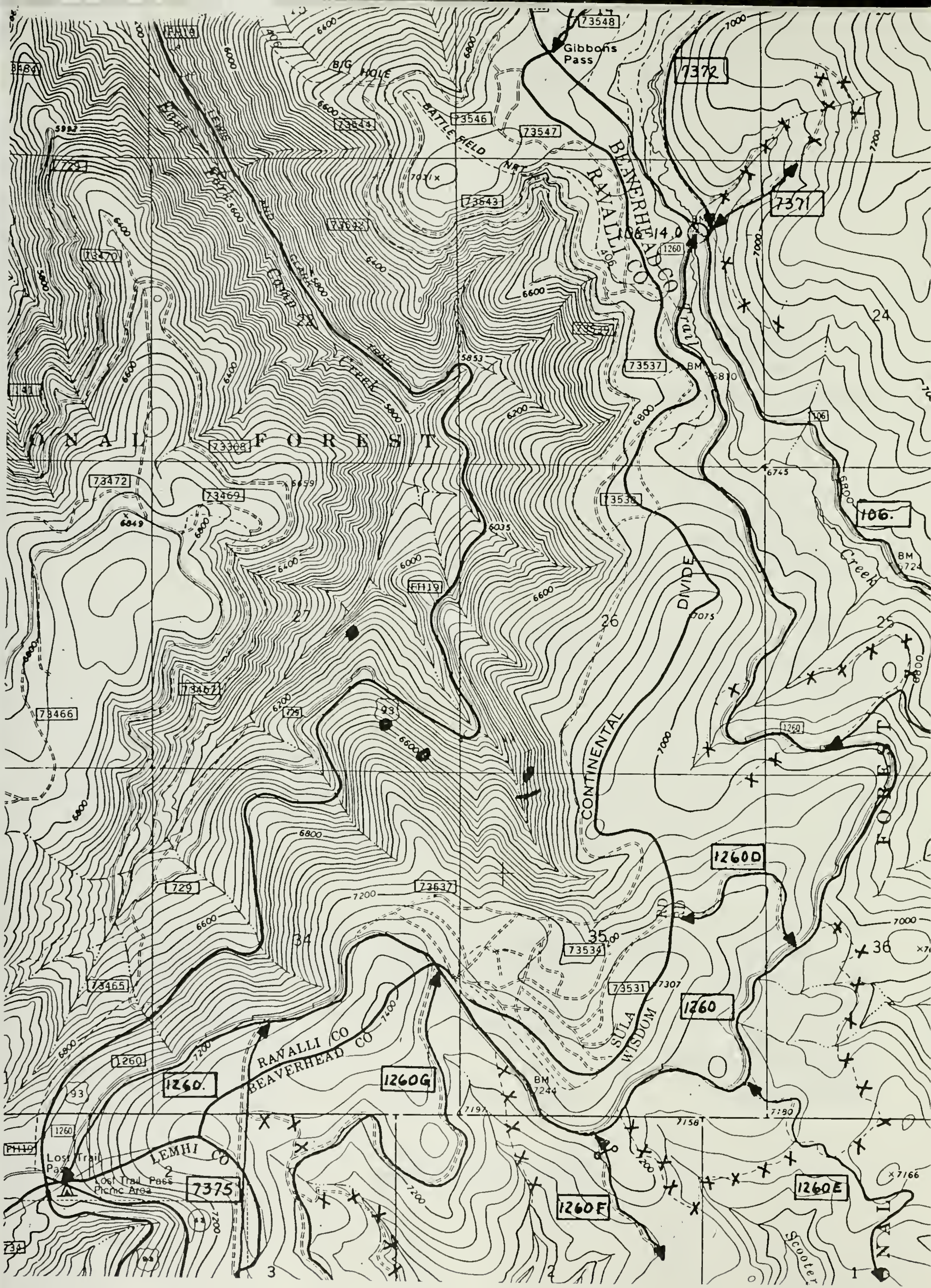
Describe Observations: (bark, territorial call, sighting
Calling repeatedly

Describe Location:
Below Road 3.7 miles from Lost TRAIL Pass on Sula

Describe Habitat: (canopy cover, comm. type, stand age,
Spruce / Fir - Mature - Creek Bottom Area

Describe Land use/management:
U.S.F.S.

Comments:
LOST TRAIL Pass QUADRANGLE



Gibbons Pass
7372
7371
BEAVERHEAD CO
RAVALLI CO
Trail
BIG HOLE
BATTLE FIELD
NATIONAL FOREST
CONTINENTAL DIVIDE
SULA WISDOM RD
Creek
1260D
1260
1260E
1260F
1260G
1260.
106.
RAVALLI CO
BEAVERHEAD CO
LEMHI CO
Lost Trail Pass
Lost Trail Pass Picnic Area
7375
Scooter

SURVEY REPORT FORM

Party Members P Mullen, L Mullen, J Easley, G Easley

Date 3-24-89

Target Species (if any) Boreal, Great Horned etc.

Route Name TRIANGLE

Route location:

County Beaverhead **Forest** Beaverhead

Drainage TRIANGLE **Elevation** 5800-7000 **District** Wise River

Repeat Visit ? Y (N)

Route Description

From U.S. Highway #43 at Jerry Creek Fishing Access, south up TRIANGLE Gulch past Daisy Vein, Monte Cristo Mine operate to Quartz Hill Road. West around Krobby Park, South to Vipond Park.

Distance: Approx 11 mi

Means of travel: Snowmobile (auto, ski, etc.)

Start time: 1940

Finish time: 2330

Weather (at end of survey)

Temperature: 30°

Cloud cover: 60%

Snow depth: 4-6 ft.

Precipitation (describe): scattered snow

Wind: Variable to 15 mph.

Species encountered (if any, use Owl Observation Form)

species	#
NONE	

(2)
2

SURVEY REPORT FORM

Party Members
P. MULLEN
J. PROMOZIC

Date 2/27/89

Route Name
Howell CR.

Target Species (if any)
BOREAL
~~GREAT GRAY~~

Route location:
County BEAVERHEAD **Forest** Beaverhead
Drainage Thompson cr. **Elevation** 6500' **District** WISDOM
Repeat Visit ? Y (N)

Route Description
FROM PINTLAR LAKE ROAD off of North Big Hole ROAD to Howell cr, EAST FORK Thompson Cr, ending in Clam VALLEY.

Distance: 10 Miles
Means of travel: Snow Mobile (auto, ski, etc.)

Start time: 1930
Finish time: 2300

Weather (at end of survey)
Temperature: 20°F
Cloud cover: clear
Snow depth: 5 ft

Precipitation (describe): NONE
Wind: Light - Variable

Species encountered (if any, use Owl Observation Form)

species	#
NONE	

SURVEY REPORT FORM

Party Members
P. Mullen
J. Pramozic

Date 3-d-89

Target Species (if any)
Boreal Great Gray

Route Name
Wise River Road

Route location:
County Beaverhead **Forest** Beaverhead
Drainage Wise River **Elevation** 6200-7800 **District** Wise River

Repeat Visit ? Y (N)

Route Description
From Pattengail CR Road (closure Area) up Wise River Road following New Construction to Mono Park - District Boundary.

Distance: 15 miles
Means of travel: Snow Mobile (auto, ski, etc.)

Start time: 1930
Finish time: 2330

Weather (at end of survey)
Temperature: 20°
Cloud cover: 60%
Snow depth: 4-6'

Precipitation (describe): NONE
Wind: Light Variable.

Species encountered (if any, use Owl Observation Form)

species	#
NONE	

SURVEY REPORT FORM

Party Members
P. MULLEN
J. PROMOZIE

Date 3/06/89

Target Species (if any)
ALL

Route Name
TRAPPER CR.

Route location:
County Beaverhead **Forest** Beaverhead
Drainage TRAPPER **Elevation** 4500-6500 **District** Wise River
Repeat Visit ? Ⓨ N

Route Description
FROM GLENDALE TO HECLA MINE AREA ON TRAPPER CREEK ROAD.

Distance: 9 MILES
Means of travel: SNOWMOBILE
(auto, ski, etc.)

Start time: 1930
Finish time: 2300

Weather (at end of survey)
Temperature: 35° F
Cloud cover: Clear
Snow depth: 4-5 ft.

Precipitation (describe): NONE
Wind: Light

Species encountered (if any, use Owl Observation Form)

species	#
NONE	

SURVEY REPORT FORM

Party Members
P. Mullen
L. Mullen
J. Pomozie

Date 3/03/89

Target Species (if any)
ALL

Route Name
TRAPPER CR.

Route location:
County Beaverhead **Forest** Beaverhead
Drainage TRAPPER **Elevation** 4500 ~~6500~~ **District** Wise River

Repeat Visit ? Y (N)

Route Description
From town of GLENDALE on TRAPPER/CANYON CR. ROAD up TRAPPER CREEK TO HECLA MINE AREA.

Distance: 9 MILES
Means of travel: SNOW Mobile
(auto, ski, etc.)

Start time: 1930
Finish time: 2200
* See Comments

Weather (at end of survey)
Temperature: -10°F
Cloud cover: Clear
Snow depth: 4-5 ft

Precipitation (describe): NONE
Wind: NONE

Species encountered (if any, use Owl Observation Form)

species	#
NONE.	

* TOO COLD FOR SAFETY.

SURVEY REPORT FORM

Party Members
P Mellan
J. Piemozic

Date 3-15-89

Target Species (if any)
Boreal
Anything

Route Name
LaMarche Creek

Route location:
County Deer Lodge
Forest Beaverhead
Drainage LaMarche Cr
Elevation 6200
District Wise River

Repeat Visit ? Y ~~N~~

Route Description
From Seymour Bridge on Highway #274, S. up Seymour Lake Road 3.5 miles to East Fork LaMarche Creek Road. Travel 4 miles To End of Road.

Distance: 8 miles
Means of travel: Snow Machine
(auto, ski, etc.)

Start time: 1930 -
Finish time: 2200

Weather
Temperature: 20°
Cloud cover: 100%
Snow depth: 3-5 ft

Precipitation: Snow
Wind: Heavy

Species encountered (if any, use Owl Observation Form)

species	#
None.	

SURVEY REPORT FORM

Party Members
Pillatsch
J. Pierozzic

Date 3/16/89

Route Name
Fishtrap

Target Species (if any)
Breed
Anything

Route location:
County Deerlodge **Forest** Beaverhead
Drainage Fishtrap Cr. **Elevation** 6300 **District** Wise River

Repeat Visit ? Y (N)

Route Description
From Highway #43 up Mudd Creek Road to Fishtrap creek Turnoff. Travel 8 miles Down Fishtrap Road.

Distance: 8 Miles
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 1930
Finish time: 2230

Weather
Temperature: 20°
Cloud cover: 100%
Snow depth: 3.5ft

Precipitation: Snow
Wind: Gusty

Species encountered (if any, use Owl Observation Form)

species	#
None	

11

SURVEY REPORT FORM

Party Members
P. Mullen
J. Piawozic

Date 3-20-89

Target Species (if any)
Boreal
Great Gray

Route Name
Doolittle

Route location:
County Beaverhead Forest Beaverhead
Drainage Doolittle Cr. Elevation 6200-7500 District Wisdom

Repeat Visit ? Y (N)

Route Description
up Doolittle Rd. of Highway #43, 8 miles up North Fork of Doolittle Rd.

Distance: 8 miles
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 1930
Finish time: 2245

Weather (at end of survey)
Temperature: 20°
Cloud cover: Clear
Snow depth: 4 ft.

Precipitation (describe):
Wind: Light

Species encountered (if any, use Owl Observation Form)

species	#
None	

COMMENTS: Two miles up North Fork Doolittle Rodd from Forest Boundary - Heard probable female Boreal (or Olive sided) Buzz - Repeated 3 times.

12

SURVEY REPORT FORM

Party Members
P. Mullen
J. Prowse

Date 3-21-89

Route Name
STEEL-FOX

Target Species (if any)
Boreal
Great Gray

Route location:
County Beaverhead **Forest** Beaverhead
Drainage Steel Cr. **Elevation** 6200-6400 **District** Wisdom
Repeat Visit ? Y (N)

Route Description
From Highway # 43 at Wisdom up steel Creek Road to Forest Boundary Bajin Raite. along Road # 33.

Distance: 9 miles
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 1930
Finish time: 2300

Weather
Temperature: 30°
Cloud cover: Partly
Snow depth: 2-4 ft.
Precipitation: None
Wind: Gusty

Species encountered (if any, use Owl Observation Form)

species	#
Great Horned	1

(14)
14

SURVEY REPORT FORM

Party Members
P. Mullen
L. Mullen

Date 3-24-89

Route Name
Howell Creek

Target Species (if any)
Boreal
Great Gray

Route location:
County Beaverhead **Forest** Beaverhead
Drainage Howell Creek **Elevation** 6300-7000 **District** Wisdom
Repeat Visit ? Y N

Route Description
From Pintler Creek Road at Howell Creek Rd Jct. 8 miles to East Fork Thomson Creek Gate.

Distance: 8 miles
Means of travel: Snow Machine
(auto, ski, etc.)

Start time: 1930
Finish time: 2230

Weather
Temperature: 30°
Cloud cover: partly
Snow depth: 5ft

Precipitation: None
Wind: None

Species encountered (if any, use Owl Observation Form)

species	#
Sawwhet	1
Great Horned	2
(Possible Great Gray	1)

OWL OBSERVATION FORM

Party Members
P. Mullen
L. Mullen

Date 3/24/89 Route Name Howell Cr.

Repeat Observation ? Y (N)

Species Saw Whet Number present 1 Time 1920 to 1950

Location:
Township 1N Range 15W Section 19 1/4 SE Elev 66
UTM (Optional) 5076.8N 305.3E Slope 10% Aspect 110
County: Beaverhead Forest: Beaverhead
Drainage: East Fork Thompson Ck District: Wisdom

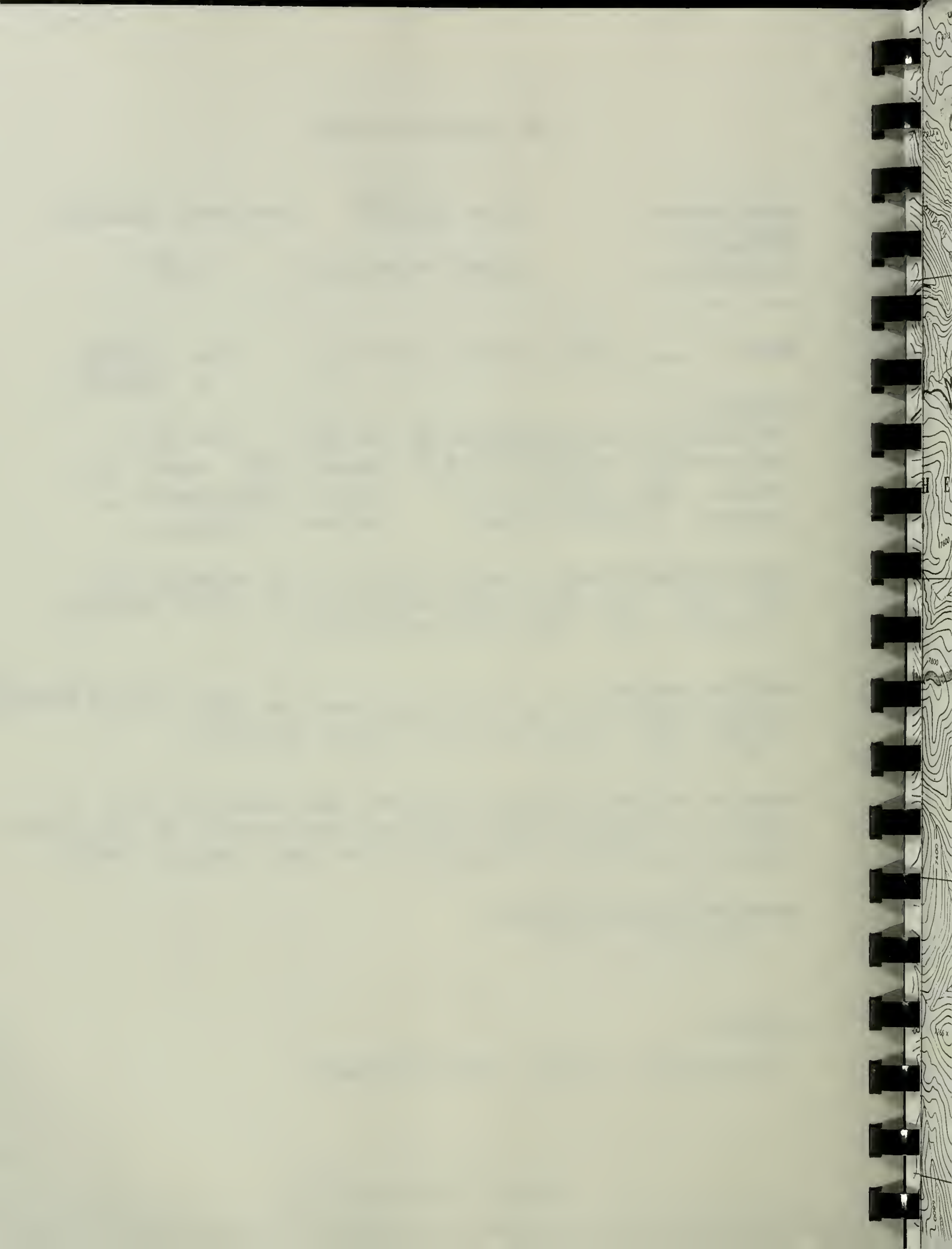
Describe Observations: (bark, territorial call, sighting, etc.)
At Dusk. Owl Began calling in Response to Barod Call Tape continued until Dark when we moved on.

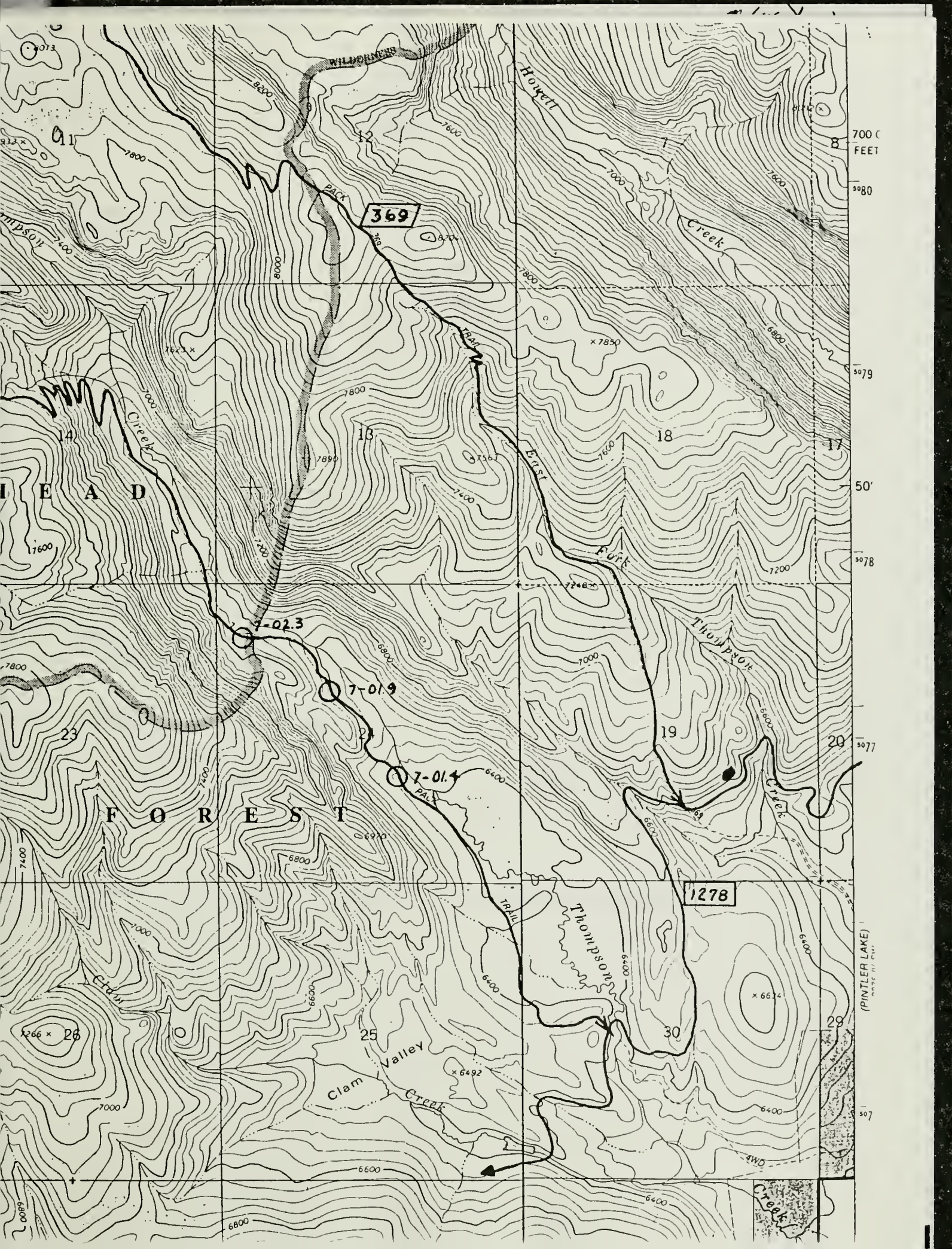
Describe Location:
Conifer stand above Thompson Creek 70 N.W. 50 m E ~~from~~ of Mystic Lake Trail Head on Howell Cr. Road.

Describe Habitat: (canopy cover, comm. type, stand age, etc.)
Mature Lodgepole stand (3 acre,) surrounded by Sage Brush Bunch grass / aspen Meadows, 50 M from Thompson Creek.

Describe Land use/management:
U.S. F.S.

Comments:
Mussigbrod Lake Quadrangle




WILDERNESS
PACK TRAIL
369
Hornet Creek
East Fork
Thompson
Creek
7-02.3
7-01.9
7-01.4
PACK TRAIL
1278
Thompson
Creek
Clam Valley Creek
(PINTLER LAKE)
HEAD
FOREST
700 FEET
5080
5079
5078
5077
5076
5075
50'

SURVEY REPORT FORM

Party Members
P. Mellon
J. Parsons
★ J. Jones - May [3rd]

Date 3/27/89

Route Name
Big Hole Bass

Target Species (if any)
Bear

Route location:
County Beaverhead Forest Beaverhead
Drainage Sweetwater Elevation 6500-7500 District WISDOM

Repeat Visit ? Y (N)

Route Description
From forest BNDY on Big Hole/Grasshopper Rd.
8 Miles up ROAD -

Distance: [illegible]
Means of travel: Snow Mobile
(auto, ski, etc.)

Start time: 1730
Finish time: 2230

Weather (at end of survey)
Temperature: 30°
Cloud cover: 20%
Snow depth: 4'

Precipitation (describe): NONE
Wind: slight - gusts at times

Species encountered (if any, use Owl Observation Form)

species	#
Great Horned	1

SURVEY REPORT FORM

Party Members Pitcello

Date 3-29-89

Target Species (if any) Boreal Owl

Route Name Lick Creek

Route location:

County Ravalli **Forest** Bitterroot

Drainage Lick Cr. **Elevation** 5600-7000 **District** SW MT

Repeat Visit ? Y N

Route Description

From Lick Creek 2 miles above Canyon Station. Follow FS up Lick Creek Road 4.5 Miles to Lick Creek Saddle.

Distance: 4.5 M

Means of travel: Snow Machine
(auto, ski, etc.)

Start time: 1930

Finish time: 2140

Weather (at end of survey)

Temperature: 25°

Cloud cover: 50%

Snow depth: 4'

Precipitation (describe): Variable

Wind: Light Variable

Species encountered (if any, use Owl Observation Form)

species	#
Saw whet	1
Female Boreal Bark ?	3x

From: MTNHP Site & Community Survey Manual (DeVelice, R.L.) Version 91I

GROUND COVER (two-digit codes)

Enter cover class code for each of the following types of ground cover:

S - bare soil (particles < 1/16 in. dia.)
G - gravel (particles 1/16 to 3 in. dia.)
R - rock (particles > 3 in. dia.)
L - litter and duff. Litter includes freshly-fallen leaves, needles, twigs, bark, fruits; duff is fermentation layer and humus layer.
W - wood (downed fragments > 1/4 in. dia.)
M - moss. Also includes Lycopodium and Selaginella.
BV - basal vegetation. This is the area occupied by root crowns and stems, not canopy cover. Values rarely exceed 30% and are usually lower.
O - other. Use when an additional category is needed. Identify the "other" item (e.g., lichen; water).

Use the following cover classes and codes:

Code	Class	Midpoint
0	0%	0%
1	< 1%	0.5%
3	1% to 4.9%	3%
10	5% to 14.9%	10%
20	15% to 24.9%	20%
30	25% to 34.9%	30%
40	35% to 44.9%	40%
50	45% to 54.9%	50%
60	55% to 64.9%	60%
70	65% to 74.9%	70%
80	75% to 84.9%	80%
90	85% to 94.9%	90%
98	95% to 100%	97.5%

T = for very small cover (e.g., <.1%)

RIPARIAN FEATURES

If the plot is within the riparian zone record the following information (indicate units of measurement as appropriate):

Channel Width (up to three-digit number) - if valley contains multiple channels, give width of channel nearest to the plot.

Channel Entrenchment (up to three-digit number) - depth to which channel has cut into valley floor.

Surface Water (two-digit code) - estimate of maximum ground cover of surface water on plot during the year (use cover classes listed above under "Ground Cover").

Height Above Water (up to three-digit number) - height of plot above stream or pond surface when water is at bank-full stage (water at bank-full stage reaches lower limit of terrestrial vegetation).

Distance from Water (up to three-digit number) - distance from water at bank-full stage to nearest plot edge.

GENERAL SITE DESCRIPTION

Description (a "word picture") of the place where the sampled community occurs. (Any specific information about the plot itself should be written into the "Comments" field following the "Ocular Plant Species Data"). Consider the setting of the community occurrence in the surrounding landscape (including landscape features and adjacent community types).

OCULAR PLANT SPECIES DATA

This portion of the form is used for recording plant species data by lifeform class, i.e., "Trees", "Shrubs", "Graminoids", and "Forbs".

For all cover estimates, use the codes from the following cover class table:

Code	Class	Midpoint
1	< 1%	0.5%
3	1% to 4.9%	3%
10	5% to 14.9%	10%
20	15% to 24.9%	20%
30	25% to 34.9%	30%
40	35% to 44.9%	40%
50	45% to 54.9%	50%
60	55% to 64.9%	60%
70	65% to 74.9%	70%
80	75% to 84.9%	80%
90	85% to 94.9%	90%
98	95% to 100%	97.5%

T = for very small cover (e.g., <.1 %)

PltIDL (two-digit code)

Plant Identification Level - enter the two-digit number that represents the percent of canopy cover equal to or greater than which all plants are to be identified. For example, "5" indicates that all plant species having 5% canopy cover or greater would be recorded; "0" indicates <u>all</u> plant species have been recorded.

Tot Cv (two-digit code)

Total Cover - estimate the percent canopy cover for the respective lifeform. This estimate is not the sum of all species in the lifeform and does not count overlap. It is the horizontal percent cover of the vertical projection of the lifeform.

Tal Cv (two-digit code)

Tall Height Cover - estimate "Total Cover" (as described above) by life form for individuals taller than 5 m (16.4 ft).

Med Cv (two-digit code)

Medium Height Cover - estimate "Total Cover" (as described above) by life form for individuals between 0.5 and 5 m tall (1.6 - 16.4 ft).

Low Cv (two-digit code)

Low Height Cover - estimate "Total Cover" (as described above) by life form for individuals between 0.05 and 0.5 m tall (0.2 - 1.6 ft).

Grd Cv (two-digit code)

Ground Height Cover - estimate "Total Cover" (as described above) by life form for individuals shorter than 0.05 m (0.2 ft).

MHt (three-digit code)

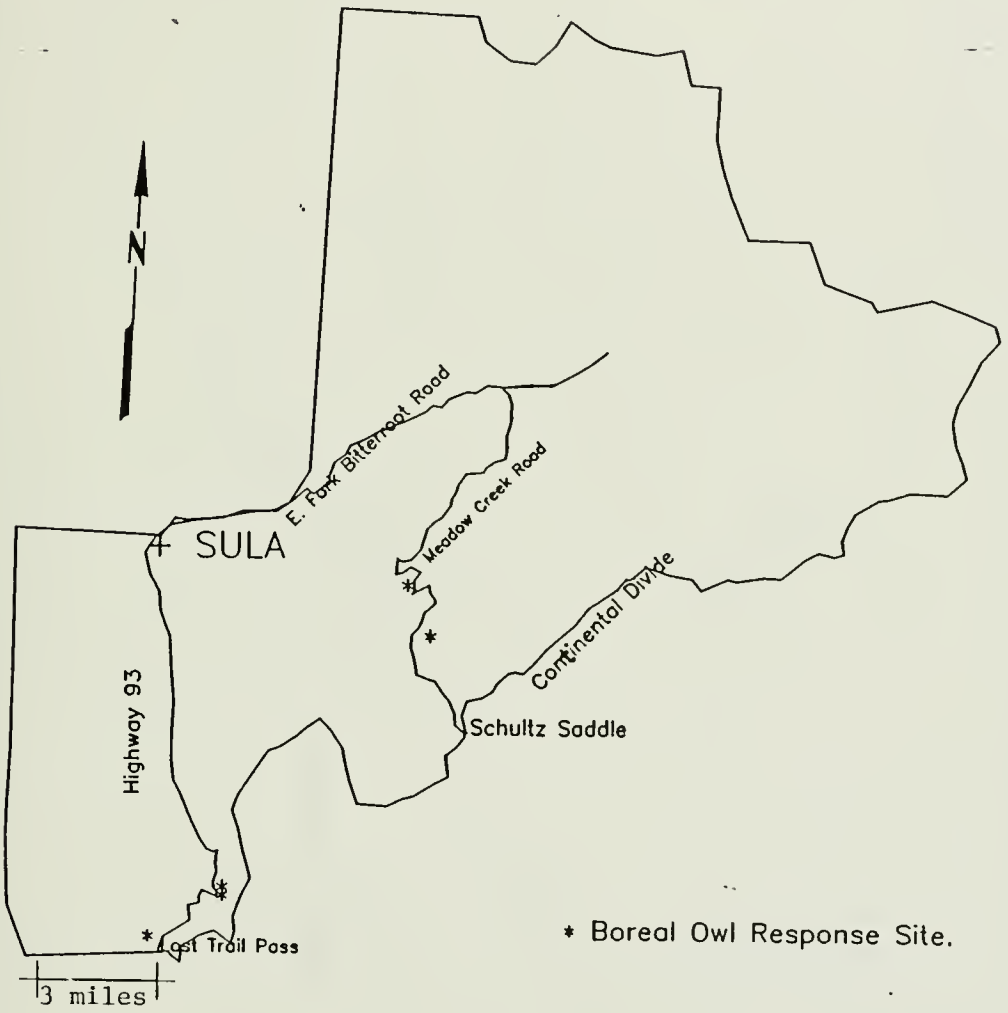
Mean Height - estimate the mean height of the dominant size class within the respective lifeform. Indicate units of measurement.

CC (two-digit code)

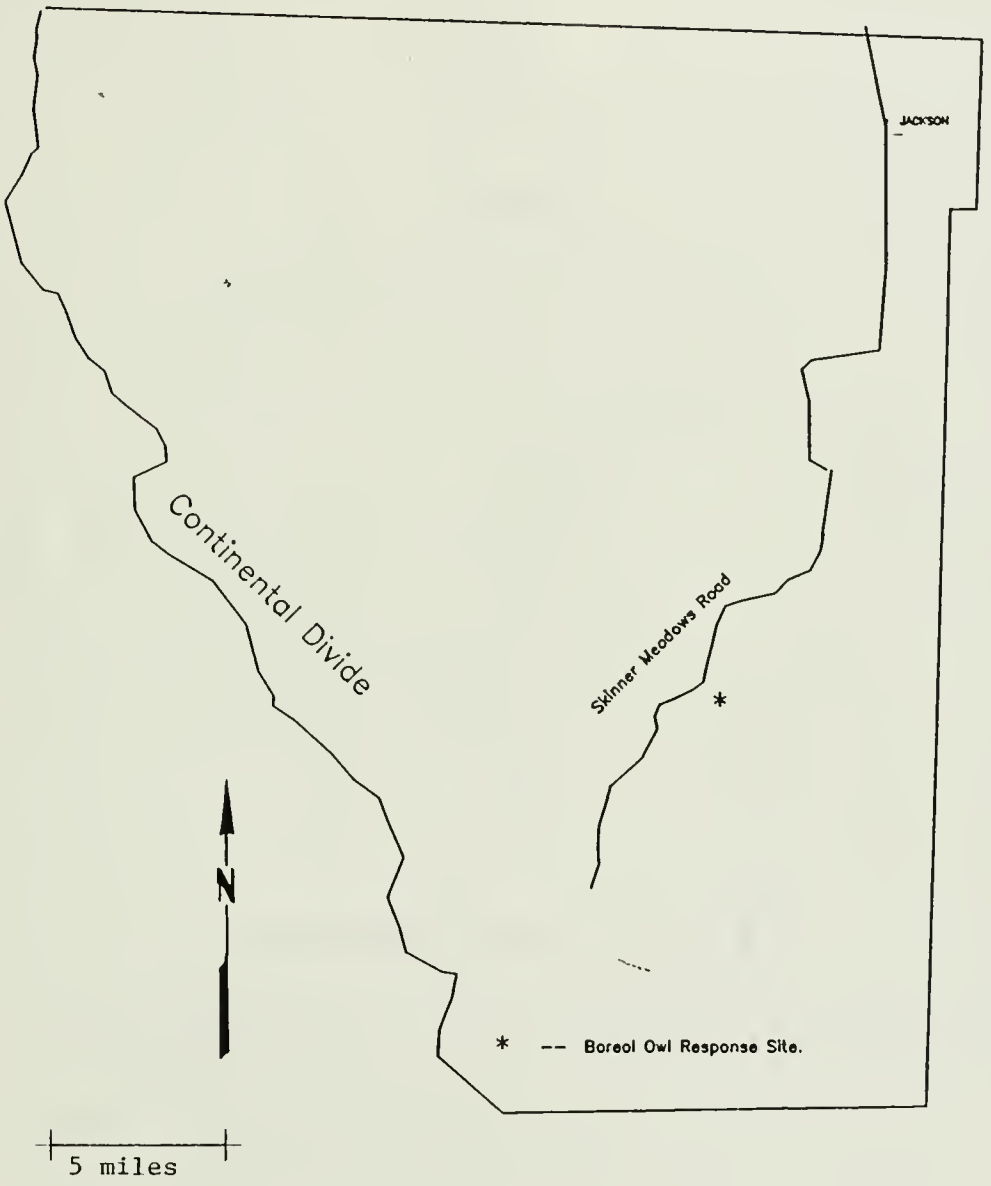
Canopy Cover - enter the appropriate canopy cover code listed above for each species in each lifeform.

APPENDIX II

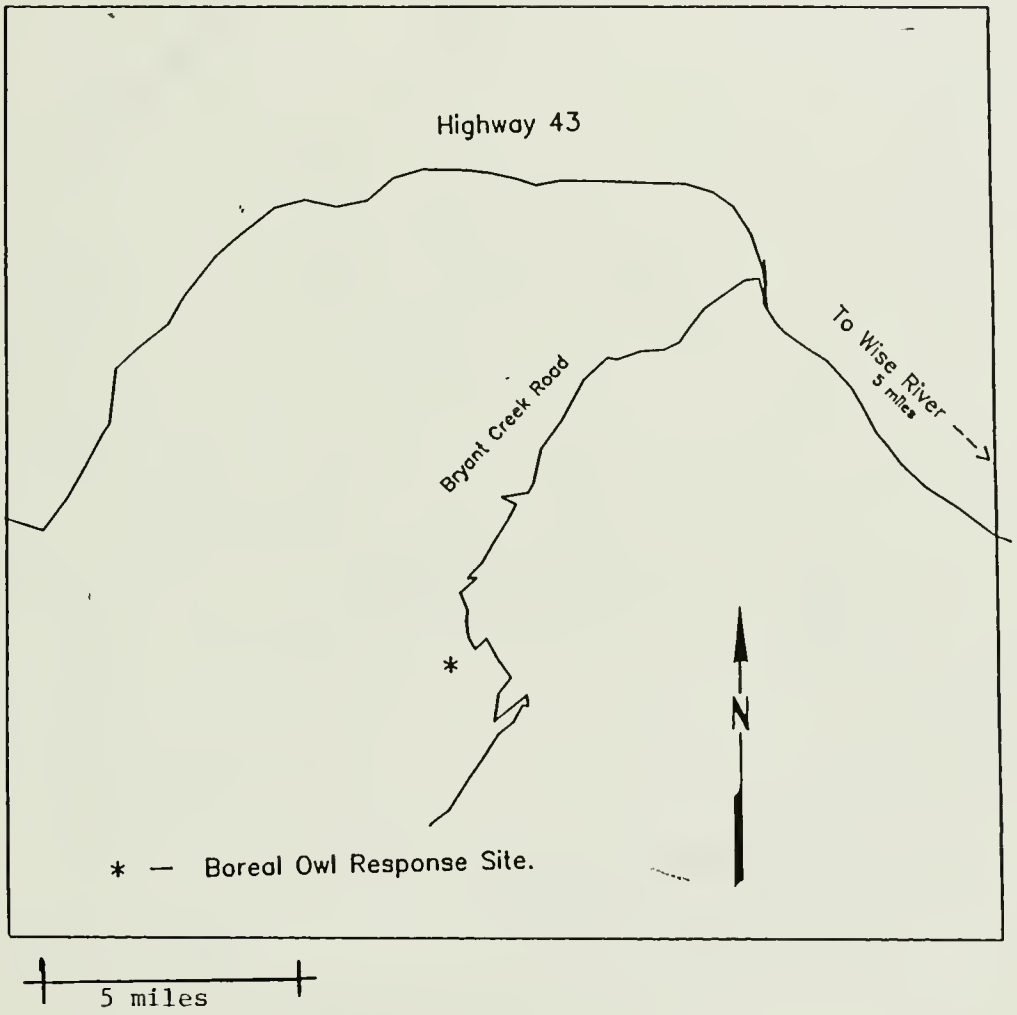
Boreal Owl Response Site maps.



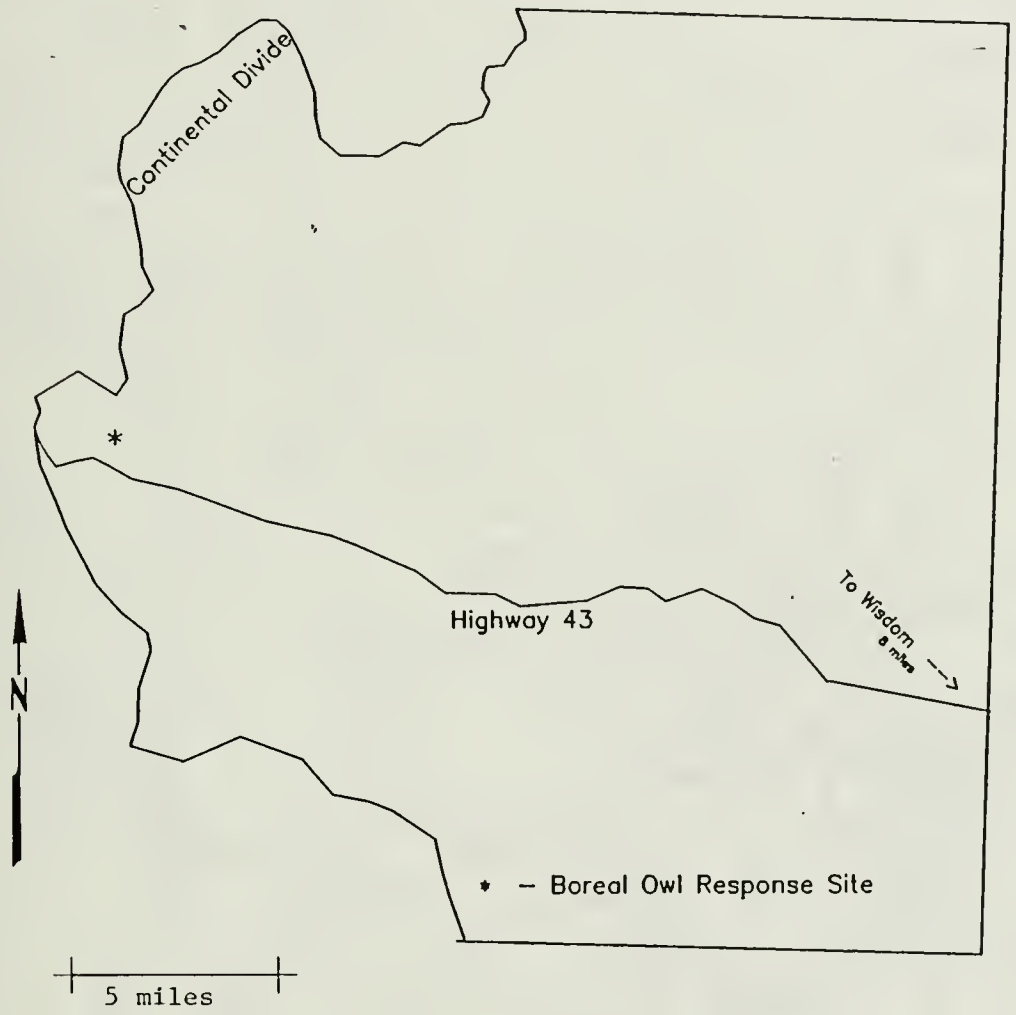
Site map for Lost Trail Pass, Meadow Creek, and Gibbons Pass survey routes.



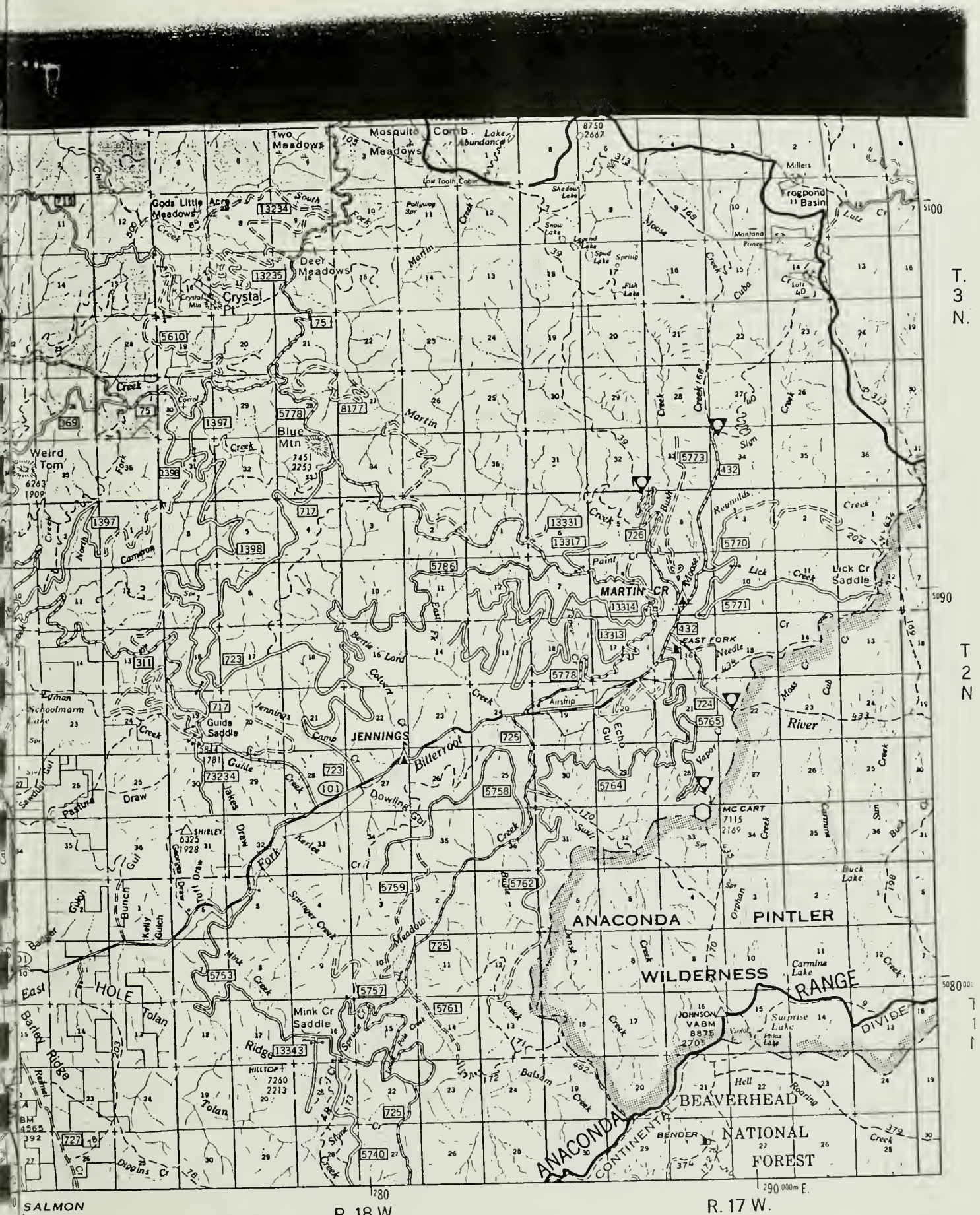
Site map for Skinner Meadows survey route.



Site map for Bryant Creek survey route.



Site map for Chief Joseph Pass survey Route.



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Weird
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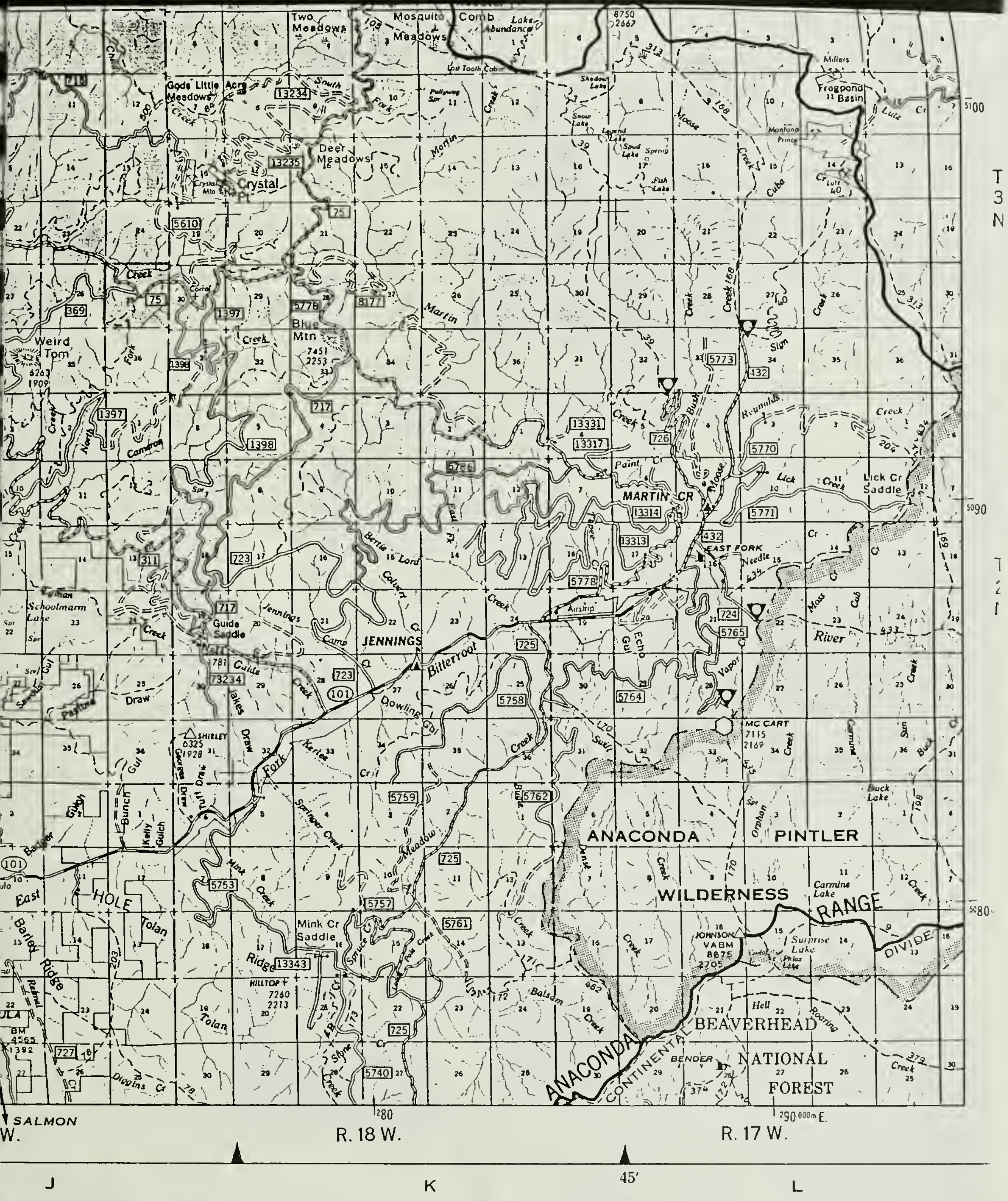
Two Meadows
Mosquito Meadows
Comb
Lake Abundance
Lost Tooth Cab.
Gods Little Acre Meadows
South Fork
Deer Meadows
Crystal Pt.
Weird Tom
6263
1909
Blue Mtn
7451
2253
Martin
Moose Creek
Cuba
Frogpond Basin
Millers
Lutz Cr
Montana Prince
T 3 N
Cameron
North Fork
Creek
Bush
Reynolds
Lick Cr Saddle
Lick Creek
MARTIN CR
EAST FORK
Needle
Moss
Cub
River
Paint Cr
Colvert
Bertie Lord
Schoolmarm Lake
Airstrip
Echo Gul
Guide Saddle
Jennings
Camp
JENNINGS
Bitterroot
Dowling Gul
Guide Draw
Lakes Draw
Pastime Draw
Vapor
MC CART
7115
2169
SHIRLEY
6325
1928
Kerlee
Fork
Springer Creek
Meadow
Bunch Gul
Kelly Gulch
Badger
Mink Creek
ANACONDA
PINTLER
WILDERNESS
RANGE
DIVIDE
Carmine Lake
Buck Lake
Orphan
Dense
East
HOLE
Tolan
Barlett
Ridge
Mink Cr Saddle
Spruce Cr
HILLTOP
7260
2213
JOHNSON VABM
8675
2705
Surprise Lake
Phlox Lake
Balsam
Hell
Roaring
BEAVERHEAD
NATIONAL
FOREST
BENDER
CONTINENTAL
ANACONDA
Creek
Styne
Diggins Cr
SALMON
W.
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R. 17 W.
280
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5100
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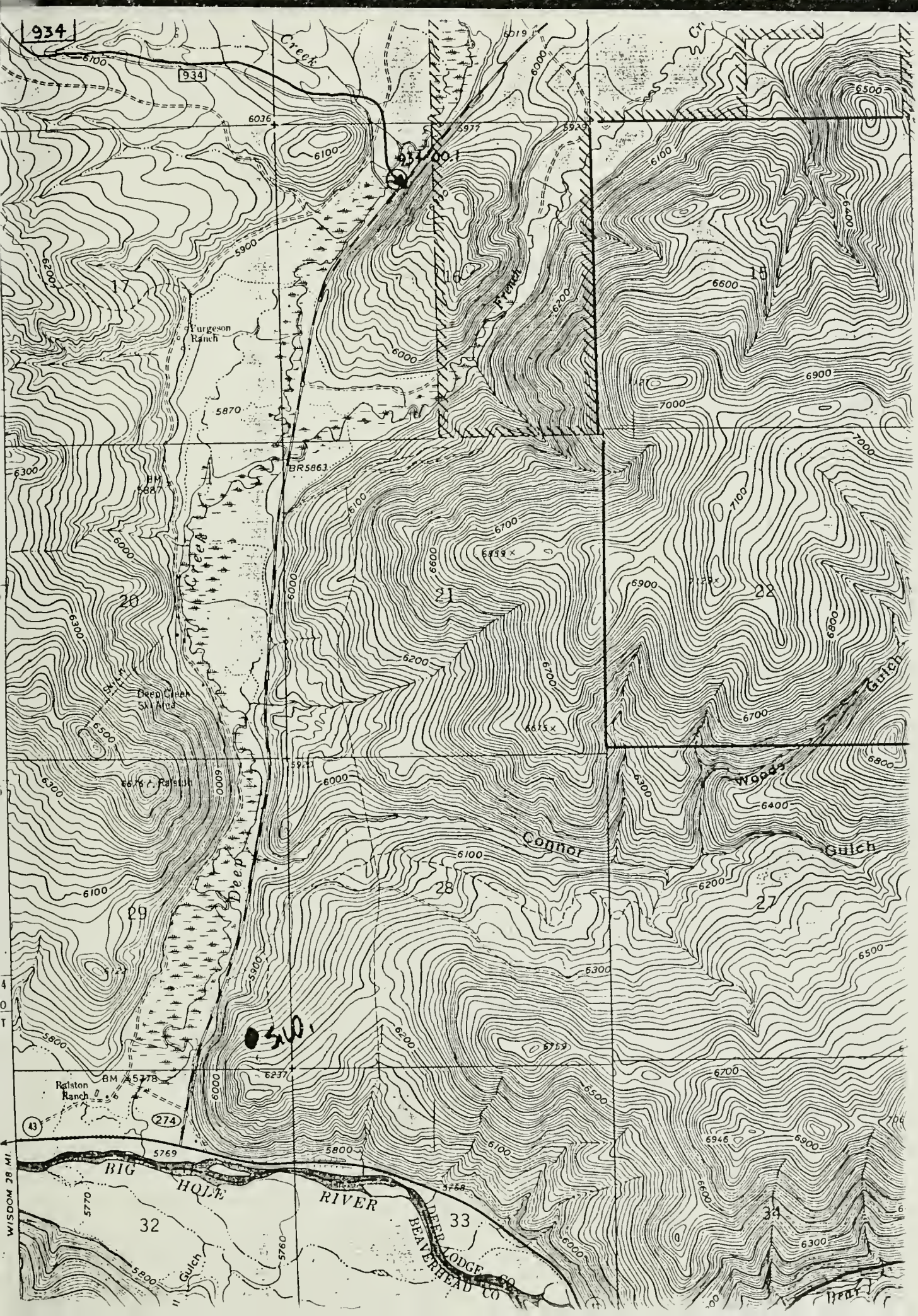
934
Creek
934
6036
6100
6019
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5977
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6500
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6400
6600
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7000
7100
6200
6000
5900
17
16
15
French
Furgeson Ranch
5870
BR5863
BM 5887
6300
6000
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6700
6600
6900
7000
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6200
6700
6800
20
21
22
Deep Creek Ski Area
6500
6300
6000
6676 r. Ralston
6000
6300
6400
6800
Woods Gulch
Connor Gulch
6100
28
27
29
Deep Creek
5800
6300
6500
6200
6700
6500
Ralston Ranch
BM 5778
6237
6000
43
274
5769
5800
6100
6946
6900
6600
BIG HOLE RIVER
5770
5758
32
33
34
BEAVERHEAD CO
DEER LODGE CO
5760
5800
6000
6300
Gulch
Bear
WISDOM 38 MI

APPENDIX III

Completed Survey Report and Owl Observation Forms.

OWL OBSERVATION FORM

Party Members
P. Mullen
J. Pierazic

Date 3-29-89

Route Name Lick Creek

Repeat Observation ? Y (N)

Species Saw-whet

Number present 1

Time 2120
to 2130

Location:

Township 22N Range 17W Section 10 1/4 SW

Elev 6000

UTM (Optional) _____

Slope 0 Aspect 0

County: Ravalli

Forest: Bitterroot

Drainage: Lick Creek

District: Sula

Describe Observations: (bark, territorial call, sighting, etc.)
Rapid staccatto, continual call approx 1 min. induration

Describe Location:
Approx. 3.9 miles From Lick Creek Saddle on Lick Creek Road - on North side of Road - 50 M.
Road runs along Ridge/Saddle complex here & Topography is Flat.

Describe Habitat: (canopy cover, comm. type, stand age, etc.)
young Lodgepole/Alpine fir., Fairly open with large clear cut directly to North - Below Stand. Small creek area to south across road -

Describe Land use/management:
USFS - Cutting units numerous.

Comments:

Lick Creek Quad?